Appl. No.: 10/823,331
Amdt. Dated: March 7, 2007
Reply to Office Action of: February 26, 2007

REMARKS/ARGUMENTS

Claims 11-25 and 37-50 remain in the application. Claims 1-10, 26-36 and 51-67 were previously canceled. Claim 14 has been amended.

Applicants' agent participated in an Examiner Interview on March 2, 2007, and summarized the points made below. The Examiner submitted he would review the cited art in light of the arguments. No conclusion was reached at that time.

1. Drawings

The Examiner has not indicated in the accompanying form PTO-948 that the formal drawings previously submitted have been approved. However, without specific rejection from the Examiner, Applicants will believe they have been deemed approved.

2. Allowable Subject Matter

Applicant notes with appreciation the Examiner has indicated the subject matter of claims 20, 23, 24, and 49 are patentable and would be allowable if rewritten in independent form.

3. § 102 Rejections

The Examiner has rejected claims 1, 14, 15, 17, 18, 21, 22, and 25 under 35 U.S.C. § 102(b) as being anticipated by Asahara, et al (U.S. Patent No. 3,885,974).

The Examiner asserts Asahara teaches, inter alia, a method for manufacturing a hermetically sealed glass package comprising providing first and second glass plates, depositing a frit made from glass doped with at least one transition metal and a coefficient of thermal expansion (CTE) lowering filler onto the second glass plate, and heating the frit with an irradiation source to soften the frit and form an hermetic seal which connects the first glass plate to the second glass plate. (Applicants believe the Examiner is referring to claim 11 rather than claim1: claims 1-10 were previously canceled by Applicants).

Applicants respectfully disagree, and traverse the rejection.

With regard to claim 1, the Examiner contends that Asahara teaches forming an hermetic seal between a first and second glass plate. However, applicants find nowhere within the specification where Asahara reveals sealing a first glass plate to another glass plate, nor does Asahara teach forming an hermetic seal between two glass plates. In the Description of the Prior Art Ashara discusses the use of the sealing glass to cover glass discs at their outer periphery. See for example, column 1, lines 10 – 14. However, it is clear from the context that Asahra is simply referring to glass discs (laser glass) generally. Ashara simply does not disclose sealing one disc to another disc, but merely describes applying the sealing glass to the periphery of a glass plate, then heating the glass to "seal" the glass. Applicants point to column 4, line 61 column 5, line 3 wherein Asahara describes the process: Asahara forms the frit, and coats the surface of the laser glass to "seal" the laser glass. Applicants point out that common terms for a frit glass include sealing glass and solder glass. The use of the term "sealing", or "sealing glass" in the context of the disclosure does not, absent an explicit teaching of that use, imply "sealing" a first workpiece to another workpiece (or the creation of an hermetic seal between two workpieces). From Ashara's description, the sealing glass (which begins as a paste comprising a glass powder and a [usually] organic vehicle), is simply painted onto the surface of the glass, and heated to "seal" the glass. That is, to drive off the vehicle (e.g. amyl acetate), and consolidate the paste into a glass.

The Examiner argues that Asahara teaches heating the frit with an irradiation source to soften the frit and form an hermetic seal between first and second glass plates. Applicants disagree. Asahara discloses a sealing glass which covers a periphery of a laser glass to absorb light which may be scattered by the inner wall of the laser glass and thereby improve the characteristics of the laser glass, such as, for example, to "prevent reflection of light by the inner wall of an Nd laser glass". See column 1, lines 10 – 14 and 21-24. At no point does Ashara teach heating the frit with an irradiation source, thereby softening the frit and forming a hermetic seal between a first and second glass plate. Asahara merely discloses heating the frit, without saying how. See column 4, line 69 – column 5, line 1, wherein Asahara simply "left" [leaves] the frit at 450°C for 3 hours to obtain a suitable "sealing effect".

The Examiner asserts that Asahara teaches the use of a CTE lowering filler, and points to Asahara's use of aluminum oxide. Aluminum oxide in and of itself is a glass former, and is present in Asahara's base frit glass composition. That is, Asahara includes aluminum oxide in the base glass powder prior to mixing with the vehicle and forming a paste (See column 2, lines 21 – 31 and Table 2A, for example, wherein the base glass composition is described as consisting of P_2O_5, PbO, Tl_2O, ZnO and Al_2O_3). When melted, the aluminum oxide becomes a dissolved glass forming constituent. Aluminum oxide as employed by Asahara is not a filler, and by itself does not modify the CTE of the base glass. What makes aluminum oxide an effective constituent within a filler composition is the formation of a crystalline phase of the filler compound, e.g. beta eucryptite, prior to the addition of the filler to the base glass. The filler particles remain crystalline in a glass matrix when the frit is melted and solidified. Applicants point out that the base frit glass composition of an embodiment of Applicants invention (without the CTE lowering filler) may also include aluminum oxide. See, for example, applicants' claim 23. Nevertheless, Applicants also teach that a CTE-lowering filler (which may itself include aluminum oxide) may be added. The Examiner's assertion that the Al_2O_3 employed by Asahara is a CTE lowering filler is incorrect, and not consistent with glass chemistry. Indeed, Asahara does not disclose the use of a filler at all.

With regard to Applicants' claim 14, the Examiner contends that Asahara teaches using a laser beam that heats the frit. Applicants have amended claim 14 to make more clear that the laser beam is the irradiation source that heats and softens the frit, forming an hermetic seal between the glass plates. As discussed supra, Asahara does not teach heating the frit with a laser to soften the frit and form an hermetic seal between two glass plates.

With regard to Applicants' claim 17, Asahara does not teach first and second glass plates that are hermetically sealed one to the other with a frit.

With regard to claim 21, the Examiner asserts that Asahara teaches the use of additive CTE lowering fillers, including lithium alumino-silicate compounds. Applicants could find no disclosure that Asahara uses a filler material. Neither could Applicants find

disclosure of a lithium compound or a silicate of any kind within Asahara, and request clarification, e.g. location of the references within Asahara.

In view of the above points, Applicants contend that Asahara does not disclose each and every limitation of Applicants' claim (i.e. claim 1), and that the Examiner has failed to make a prima facie case of anticipation. Applicants therefore argue that Applicants' claim 1 is patentable over Asahara, and that the claims depending from claim 1 are also patentable.

4. § 103 Rejections

The Examiner has rejected claim 12 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Pilcher, et al (U.S. Patent No. 6,911,667).

For at least the reasons above, Applicants assert that Pilcher, et al. do not cure the deficiencies of Asahara, and that claim 12 is patentable over Asahara in view of Pilcher.

The Examiner has rejected claim 13 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Komatsu, et al (U.S. Patent No. 5,192,240).

For at least the reasons above, Applicants assert that Komatsu, et al. do not cure the deficiencies of Asahara, and that claim 13 is patentable over Asahara in view of Komatsu.

The Examiner has rejected claim 16 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Rottmiller, et al (U.S. Patent No. 3,614,825).

For at least the reasons above, Applicants assert that Rottmiller, et al. do not cure the deficiencies of Asahara, and that claim 16 is patentable over Asahara in view of Rottmiller.

The Examiner has rejected claim 19 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Francis, et al (U.S. Patent No. 5,281,560).

For at least the reasons above, Applicants assert that Francis, et al. do not cure the deficiencies of Asahara, and that claim 19 is patentable over Asahara in view of Francis.

The Examiner has rejected claims 37, 38, 40 – 42, 47, 48, and 50 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Pilcher, et al (U.S. Patent No. 6,911,667).

For at least the reasons above, Applicants assert that Pilcher, et al. do not cure the deficiencies of Asahara, and that claims 37, 38, 40 – 42, 47, 48 and 50 are patentable over Asahara in view of Pilcher.

The Examiner has rejected claims 43 - 45 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Pilcher, et al (U.S. Patent No. 6,911,667) and Rottmiller (U.S. Patent No. 3,614,825).

For at least the reasons above, Applicants assert that neither Pilcher, et al. nor Rottmiller, separately or in combination, cure the deficiencies of Asahara, and that claims 43 – 45 are patentable over Asahara in view of Pilcher and Rottmiller.

The Examiner has rejected claim 39 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Pilcher, et al (U.S. Patent No. 6,911,667) and Komatsu (U.S. Patent No. 5,192,240).

For at least the reasons above, Applicants assert that neither Pilcher, et al. nor Komatsu, separately or in combination, cure the deficiencies of Asahara, and that claims 43 – 45 are patentable over Asahara in view of Pilcher and Komatsu.

The Examiner has rejected claim 46 under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Asahara, et al (U.S. Patent No. 3,885,974), in view of Pilcher, et al (U.S. Patent No. 6,911,667) and Francis, et al (U.S. Patent No. 5,281,560).

For at least the reasons above, Applicants assert that neither Pilcher, et al. nor Francis, separately or in combination, cure the deficiencies of Asahara, and that claims 43 – 45 are patentable over Asahara in view of Pilcher and Francis

5. Conclusion

Based upon the above amendments, remarks, and papers of records, Applicants believe the pending claims of the above-captioned application are in allowable form and

patentable over the prior art of record. Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Applicants believe that no extension of time is necessary to make this Reply timely. Should Applicants be in error, Applicants respectfully request that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorize the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 03-3325.

Please direct any questions or comments to Kevin M. Able at 607-974-2637.

3/7/07
Date

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. § 1.8

I hereby certify that this paper and any papers referred to herein are being transmitted by facsimile to the U.S. Patent and Trademark Office at 571-273-8300 on:

3/7/07
Date

Kevin M. Able 3/7/07
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Respectfully submitted,
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